# SPEC CPU®2017 Floating Point Rate Result

## Inspur Corporation

**Inspur NF5280M6 (Intel Xeon Gold 6312U)**

<table>
<thead>
<tr>
<th>Test Date:</th>
<th>Sep-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU2017 License:</td>
<td>3358</td>
</tr>
<tr>
<td>Test Sponsor:</td>
<td>Inspur Corporation</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Inspur Corporation</td>
</tr>
<tr>
<td>Hardware Availability:</td>
<td>May-2021</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Dec-2020</td>
</tr>
</tbody>
</table>

### SPECrate®2017_fp_peak = 194

### SPECrate®2017_fp_base = 185

#### Hardware

<table>
<thead>
<tr>
<th>Test Date:</th>
<th>Sep-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name:</td>
<td>Intel Xeon Gold 6312U</td>
</tr>
<tr>
<td>Max MHz:</td>
<td>3600</td>
</tr>
<tr>
<td>Nominal:</td>
<td>2400</td>
</tr>
<tr>
<td>Enabled:</td>
<td>24 cores, 1 chip, 2 threads/core</td>
</tr>
<tr>
<td>Orderable:</td>
<td>1 chip</td>
</tr>
<tr>
<td>Cache L1:</td>
<td>32 KB I + 48 KB D on chip per core</td>
</tr>
<tr>
<td>L2:</td>
<td>1.25 MB I+D on chip per core</td>
</tr>
<tr>
<td>L3:</td>
<td>36 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other:</td>
<td>None</td>
</tr>
<tr>
<td>Memory:</td>
<td>512 GB (16 x 32 GB 2Rx8 PC4-3200AA-R)</td>
</tr>
<tr>
<td>Storage:</td>
<td>1 x 1.6 TB NVME SSD</td>
</tr>
<tr>
<td>Other:</td>
<td>None</td>
</tr>
</tbody>
</table>

#### Software

<table>
<thead>
<tr>
<th>Test Date:</th>
<th>Sep-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS:</td>
<td>Red Hat Enterprise Linux release 8.2 (Ootpa)</td>
</tr>
<tr>
<td>Compiler:</td>
<td>C/C++: Version 2021.1 of Intel oneAPI DPC++/C++ Compiler Build 20201113 for Linux; C/C++: Version 2021.1 of Intel C/C++ Compiler Classic Build 20201112 for Linux; Fortran: Version 2021.1 of Intel Fortran Compiler Classic Build 20201112 for Linux</td>
</tr>
<tr>
<td>Parallel:</td>
<td>No</td>
</tr>
<tr>
<td>Firmware:</td>
<td>Version 05.00.02 released May-2021</td>
</tr>
<tr>
<td>File System:</td>
<td>xfs</td>
</tr>
<tr>
<td>System State:</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers:</td>
<td>64-bit</td>
</tr>
<tr>
<td>Peak Pointers:</td>
<td>64-bit</td>
</tr>
<tr>
<td>Other:</td>
<td>jemalloc memory allocator V5.0.1</td>
</tr>
<tr>
<td>Power Management:</td>
<td>BIOS and OS set to prefer performance at the cost of additional power usage.</td>
</tr>
</tbody>
</table>

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**Covers**

<table>
<thead>
<tr>
<th>Name</th>
<th>Copied</th>
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<tbody>
<tr>
<td>503.bwaves_r</td>
<td>48</td>
</tr>
<tr>
<td>507.cactuBSSN_r</td>
<td>48</td>
</tr>
<tr>
<td>508.namd_r</td>
<td>48</td>
</tr>
<tr>
<td>510.parest_r</td>
<td>48</td>
</tr>
<tr>
<td>511.povray_r</td>
<td>48</td>
</tr>
<tr>
<td>519.lbm_r</td>
<td>48</td>
</tr>
<tr>
<td>521.wrf_r</td>
<td>48</td>
</tr>
<tr>
<td>526.blender_r</td>
<td>48</td>
</tr>
<tr>
<td>527.cam4_r</td>
<td>48</td>
</tr>
<tr>
<td>538.imagick_r</td>
<td>48</td>
</tr>
<tr>
<td>544.nab_r</td>
<td>48</td>
</tr>
<tr>
<td>549.fotonik3d_r</td>
<td>48</td>
</tr>
<tr>
<td>554.roms_r</td>
<td>48</td>
</tr>
</tbody>
</table>

**SPECrate®2017_fp_base** (185)

**SPECrate®2017_fp_peak** (194)
## SPEC CPU®2017 Floating Point Rate Result

### Inspur Corporation

#### Inspur NF5280M6 (Intel Xeon Gold 6312U)

**CPU2017 License:** 3358  
**Test Sponsor:** Inspur Corporation  
**Tested by:** Inspur Corporation

### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<td>1351</td>
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<tr>
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</tr>
<tr>
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<td>48</td>
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<td>554.roms_r</td>
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<td>72.5</td>
<td>1055</td>
<td>72.3</td>
<td>1052</td>
<td>72.5</td>
</tr>
</tbody>
</table>

### Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

### Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"  
SCALING_GOVERNOR set to Performance

### Environment Variables Notes

Environment variables set by runcpu before the start of the run:  
LD_LIBRARY_PATH = "/home/CPU2017/lib/intel64:/home/CPU2017/je5.0.1-64"  
MALLOC_CONF = "retain:true"
Insapur Corporation

**SPEC CPU®2017 Floating Point Rate Result**

**SPECrater®2017_fp_base = 185**

**SPEC CPU®2017_fp_peak = 194**

**Inspur Corporation**

**Inspur NF5280M6 (Intel Xeon Gold 6312U)**

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**CPU2017 License:** 3358

**Test Sponsor:** Inspur Corporation

**Test Date:** Sep-2021

**Hardware Availability:** May-2021

**Software Availability:** Dec-2020

---

### General Notes (Continued)

```bash
csync; echo 3 > /proc/sys/vm/drop_caches
```

runcpu command invoked through numacl i.e.:

```bash
numactl --interleave=all runcpu <etc>
```

**NA:** The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.

**Yes:** The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.

**Yes:** The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.

jemalloc, a general purpose malloc implementation

built with the RedHat Enterprise 7.5,

and the system compiler gcc 4.8.5;

sources available from jemalloc.net or


---

### Platform Notes

**BIOS configuration:**

ENERGY_PERF_BIAS_CFG mode set to Performance

Hardware Prefetch set to Disable

VT Support set to Disable

C1E Support set to Disable

Sub NUMA Cluster (SNC) set to Enable

**Sysinfo program** /home/CPU2017/bin/sysinfo

Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16aca6e64d

running on localhost.localdomain Fri Sep 17 14:05:00 2021

**SUT (System Under Test) info as seen by some common utilities.**

For more information on this section, see

https://www.spec.org/cpu2017/Docs/config.html#sysinfo

From /proc/cpuinfo

model name : Intel(R) Xeon(R) Gold 6312U CPU @ 2.40GHz

1 "physical id"s (chips)

48 "processors"

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

```bash
cpu cores : 24
siblings : 48
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
```

From lscpu from util-linux 2.32.1:

Architecture: x86_64

(Continued on next page)
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Platform Notes (Continued)

CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 48
On-line CPU(s) list: 0-47
Thread(s) per core: 2
Core(s) per socket: 24
Socket(s): 1
NUMA node(s): 2
Vendor ID: GenuineIntel
CPU family: 6
Model: 106
Model name: Intel(R) Xeon(R) Gold 6312U CPU @ 2.40GHz
Stepping: 6
CPU MHz: 3100.000
CPU max MHz: 3600.0000
CPU min MHz: 800.0000
BogoMIPS: 4800.00
Virtualization: VT-x
L1d cache: 48K
L1i cache: 32K
L2 cache: 1280K
L3 cache: 36864K
NUMA node0 CPU(s): 0-11, 24-35
NUMA node1 CPU(s): 12-23, 36-47
Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov
pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp
lm constant_time art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid
aperfmerpf pni pclmulqdq dtes64 ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm
pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c
rdrand lahf_lm abm 3nowprefetch cpuid_fault epb cat_l3 invpcid_single ssbd mba ibrs
ibpb stibp ibrs Enhanced tpr_shadow vmm xflexpriority ept vpid fsgsbase tsc_adjust
bmi1 hle avx2 smep bmi2 erns invpcid rtm cmq rdt_a avx512f avx512dq rdseed adx smap
avx512ifma clflushopt clwb intel_pt avx512cd sha ni avx512bw avx512vl xsaveopt
xsaves xgetbv1 xsave cqm_l1_cqm_occup_llc cqm_mbm_total cqm_mbm_local wbnoinvd
dtm dtr ia da ai dp np io ps avx512_vbmi vmporph pnu avx512_vbmi2 gfn vaes vpclmulqdq
avx512_vbmi avx512_bitalg tme avx512_vpopcntdq la57 rdpid md_clear pconfig flush_l1d
arch_capabilities

/proc/cpuinfo cache data
cache size : 36864 KB

From numactl --hardware
WARNING: a numactl 'node' might or might not correspond to a physical chip.
available: 2 nodes (0-1)
node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 24 25 26 27 28 29 30 31 32 33 34 35
node 0 size: 257636 MB
node 0 free: 244198 MB

(Continued on next page)
# SPEC CPU®2017 Floating Point Rate Result

## Inspecr Corporation

Inspecr NF5280M6 (Intel Xeon Gold 6312U)

<table>
<thead>
<tr>
<th>SPECrate®2017_fp_peak</th>
<th>SPECrate®2017_fp_base</th>
</tr>
</thead>
<tbody>
<tr>
<td>194</td>
<td>185</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 3358  
**Test Sponsor:** Inspecr Corporation  
**Tested by:** Inspecr Corporation  
**Test Date:** Sep-2021  
**Hardware Availability:** May-2021  
**Software Availability:** Dec-2020

### Platform Notes (Continued)

- node 1 cpus: 12 13 14 15 16 17 18 19 20 21 22 23 36 37 38 39 40 41 42 43 44 45 46 47
- node 1 size: 258012 MB
- node 1 free: 247090 MB
- node distances:
  - 0: 10 11
  - 1: 11 10

From /proc/meminfo

- MemTotal: 528024300 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

/sbin/tuned-adm active  
Current active profile: throughput-performance

/sys/devices/system/cpu/cpu*/cpufreq/scaling_governor has performance

From /etc/*release*/etc/*version*

- os-release:
  - NAME="Red Hat Enterprise Linux"
  - VERSION=8.2 (Ootpa)"
  - ID="rhel"
  - ID_LIKE="fedora"
  - VERSION_ID="8.2"
  - PLATFORM_ID="platform:el8"
  - PRETTY_NAME="Red Hat Enterprise Linux 8.2 (Ootpa)"
  - ANSI_COLOR="0;31"

- redhat-release: Red Hat Enterprise Linux release 8.2 (Ootpa)
- system-release: Red Hat Enterprise Linux release 8.2 (Ootpa)
- system-release-cpe: cpe:/o:redhat:enterprise_linux:8.2:ga

uname -a:

```
Linux localhost.localdomain 4.18.0-193.el8.x86_64 #1 SMP Fri Mar 27 14:35:58 UTC 2020
x86_64 x86_64 x86_64 GNU/Linux
```

Kernel self-reported vulnerability status:

- CVE-2018-12207 (iTLB Multihit): Not affected
- CVE-2018-3620 (L1 Terminal Fault): Not affected
- Microarchitectural Data Sampling: Not affected
- CVE-2017-5754 (Meltdown): Not affected
- CVE-2018-3639 (Speculative Store Bypass): Mitigation: Speculative Store Bypass disabled via prctl and seccomp
- CVE-2017-5753 (Spectre variant 1): Mitigation: usercopy/swapgs

(Continued on next page)
Inspecor Corporation  
Inspur NF5280M6 (Intel Xeon Gold 6312U)  

SPECrater®2017_fp_base = 185
SPECrater®2017_fp_peak = 194

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Test Sponsor: Inspur Corporation  
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Test Date: Sep-2021  
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Platform Notes (Continued)

barriers and __user pointer sanitation  
Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling

CVE-2017-5715 (Spectre variant 2):
CVE-2020-0543 (Special Register Buffer Data Sampling):
CVE-2019-11135 (TSX Asynchronous Abort):

run-level 3 Sep 17 07:04

SPEC is set to: /home/CPU2017  
Filesystem Type Size Used Avail Use% Mounted on  
/dev/mapper/rhel-home xfs 1.5T 90G 1.4T 7% /home

From /sys/devices/virtual/dmi/id
Vendor: Inspur  
Product: NF5280M6  
Product Family: Family  
Serial: 380251214

Additional information from dmidecode 3.2 follows. WARNING: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

Memory:
16x Micron 18ASF4G72PDZ-3G2E1 32 GB 2 rank 3200
16x NO DIMM NO DIMM

BIOS:
BIOS Vendor: American Megatrends Inc.
BIOS Version: 05.00.02
BIOS Date: 05/22/2021
BIOS Revision: 5.22

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
| C               | 519.lbm_r(base, peak) 538.imagick_r(base, peak)
|                 | 544.nab_r(base, peak)
==============================================================================

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2021.1 Build 20201113
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(Continued on next page)
Compiler Version Notes (Continued)

C++             | 508.namd_r(base, peak) 510.parest_r(base, peak)
----------------------------------------------------------------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
----------------------------------------------------------------------------------------------------------------------------------------

C++, C          | 511.povray_r(peak)
----------------------------------------------------------------------------------------------------------------------------------------
Intel(R) C++ Intel(R) 64 Compiler Classic for applications running on Intel(R) 64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R) 64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
----------------------------------------------------------------------------------------------------------------------------------------

C++, C          | 511.povray_r(base) 526.blender_r(base, peak)
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Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
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----------------------------------------------------------------------------------------------------------------------------------------

C++, C          | 511.povray_r(peak)
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Intel(R) C++ Intel(R) 64 Compiler Classic for applications running on Intel(R) 64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R) 64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
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C++, C          | 511.povray_r(base) 526.blender_r(base, peak)
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Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2021.1 Build 20201113
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(Continued on next page)
Compiler Version Notes (Continued)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2021.1 Build 20201113
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------------------------------------------------------------------------------
| C++, C, Fortran | 507.cactuBSSN_r(base, peak) |
------------------------------------------------------------------------------

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

Intel(R) Fortran Fortran Intel(R) 64 Compiler Classic for applications running on Intel(R) 64, Version 2021.1 Build 20201112_000000
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------------------------------------------------------------------------------
| Fortran         | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak) 554.roms_r(base, peak) |
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------------------------------------------------------------------------------
| Fortran, C      | 521.wrf_r(peak) |
------------------------------------------------------------------------------

Intel(R) Fortran Fortran Intel(R) 64 Compiler Classic for applications running on Intel(R) 64, Version 2021.1 Build 20201112_000000
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Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R) 64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

------------------------------------------------------------------------------
| Fortran, C      | 521.wrf_r(base) 527.cam4_r(base, peak) |
------------------------------------------------------------------------------

Intel(R) Fortran Fortran Intel(R) 64 Compiler Classic for applications running on Intel(R) 64, Version 2021.1 Build 20201112_000000
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Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2021.1 Build 20201113

(Continued on next page)
Inspur Corporation
Inspur NF5280M6 (Intel Xeon Gold 6312U)

SPECrater®2017_fp_base = 185
SPECrater®2017_fp_peak = 194

Compiled Program Results

Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on Intel(R) 64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R) 64, Version 2021.1 Build 20201112_000000
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Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2021.1 Build 20201113
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Base Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
ifort icx

Benchmarks using both C and C++:
icpx icx

Benchmarks using Fortran, C, and C++:
icpx icx ifort
Inspec Corporation
Inspur NF5280M6 (Intel Xeon Gold 6312U)

**SPECrate®2017_fp_base = 185**

**SPECrate®2017_fp_peak = 194**

**CPU2017 License:** 3358  
**Test Sponsor:** Inspur Corporation  
**Tested by:** Inspur Corporation

**Test Date:** Sep-2021  
**Hardware Availability:** May-2021  
**Software Availability:** Dec-2020

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### Base Portability Flags

- 503.bwaves_r: -DSPEC_LP64
- 507.cactuBSSN_r: -DSPEC_LP64
- 508.namd_r: -DSPEC_LP64
- 510.parest_r: -DSPEC_LP64
- 511.povray_r: -DSPEC_LP64
- 519.lbm_r: -DSPEC_LP64
- 521.wrf_r: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
- 526.blender_r: -DSPEC_LP64 -DSPEC_LINUX -funsigned-char
- 527.cam4_r: -DSPEC_LP64 -DSPEC_CASE_FLAG
- 538.imagick_r: -DSPEC_LP64
- 544.nab_r: -DSPEC_LP64
- 549.fotonik3d_r: -DSPEC_LP64
- 554.roms_r: -DSPEC_LP64

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### Base Optimization Flags

**C benchmarks:**
- `-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4`  
- `-L/usr/local/jemalloc64-5.0.1/lib`

**C++ benchmarks:**
- `-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math -flto`  
- `-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4`  
- `-L/usr/local/jemalloc64-5.0.1/lib`

**Fortran benchmarks:**
- `-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ipo -no-prec-div -qopt-prefetch -ffinite-math-only -qopt-multiple-gather-scatter-by-shuffles -qopt-mem-layout-trans=4 -nostandard-realloc-lhs -align array32byte -auto`  
- `-mbranches-within-32B-boundaries -ljemalloc`  
- `-L/usr/local/jemalloc64-5.0.1/lib`

**Benchmarks using both Fortran and C:**
- `-w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -O3 -ipo`  

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Inspur Corporation

Inspur NF5280M6 (Intel Xeon Gold 6312U)

SPEC®2017 Floating Point Rate Result

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Base Optimization Flags (Continued)

Benchmarks using both C and C++:
-w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-mbranches-within-32B-boundaries -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

Benchmarks using Fortran, C, and C++:
-w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -O3
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-multiple-gather-scatter-by-shuffles
-mbranches-within-32B-boundaries -nostandard-realloc-lhs
-align array32byte -auto -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib

Peak Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
521.wrf_r: ifort icc
527.cam4_r: ifort icx

Benchmarks using both C and C++:
511.povray_r: icpc icc
526.blender_r: icpx icx

Benchmarks using Fortran, C, and C++:
icpx icx ifort
SPEC CPU®2017 Floating Point Rate Result

Inspur Corporation

Inspur NF5280M6 (Intel Xeon Gold 6312U)

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CPU2017 License: 3358
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Tested by: Inspur Corporation
Hardware Availability: May-2021
Software Availability: Dec-2020

Peak Portability Flags
Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:
519.lbm_r: basepeak = yes
538.imagick_r: basepeak = yes
544.nab_r: -w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -flto -Ofast -qopt-mem-layout-trans=4 -flto -mbranches-within-32B-boundaries -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib

C++ benchmarks:
508.namd_r: basepeak = yes

Fortran benchmarks:
549.fotonik3d_r: basepeak = yes
554.roms_r: Same as 503.bwaves_r

Benchmarks using both Fortran and C:
521.wrf_r: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512 -O3 -ipo -no-prec-div -qopt-prefetch -ffinite-math-only -qopt-multiple-gather-scatter-by-shuffles -qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries

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Insipur Corporation

Inspur NF5280M6 (Intel Xeon Gold 6312U)

SPECrate®2017_fp_base = 185
SPECrate®2017_fp_peak = 194

Peak Optimization Flags (Continued)

521.wrf_r (continued):
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

527.cam4_r: basepeak = yes

Benchmarks using both C and C++:

511.povray_r: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512 -O3
-ipo -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-multiple-gather-scatter-by-shuffles
-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

526.blender_r: basepeak = yes

Benchmarks using Fortran, C, and C++:

507.cactuBSSN_r: basepeak = yes

The flags files that were used to format this result can be browsed at

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.xml
http://www.spec.org/cpu2017/flags/Inspur-Platform-Settings-V2.1.xml

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For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

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